REMARKS

The Office Action of April 29, 2010 has been received and its contents carefully considered.

The Claim Objections:

The present Amendment revises claims 15 and 24 to correct the informalities noted in sections 6 and 7 of the Office Action. Accordingly, the claim objections should be withdrawn.

The Rejection for Non-statutory Subject Matter:

The present Amendment revises independent claims 2 5, and 8 to recite physical structure. Claims 2 and 5 now recite a printer that prints the watermarked document image on a recording medium (such as paper). Claim 8 now recites "a scanner for scanning the document to produce a scanned image." With these revisions, it is respectfully submitted that the rejection of claims 2, 5, and 8 under 35 USC 101 should be withdrawn.

The present Amendment also revises independent method claims 15, 18, and 20 to tie these claims to a particular machine (again, a printer or a scanner), so the rejection should be withdrawn for these claims, too.

Since the independent claims are now directed to statutory subject matter, the rejection should be withdrawn with respect to the dependent claims, too.

The Rejections for Indefiniteness:

The present Amendment revises claims 4 and 20 in response to the rejections in sections 13 and 15 of the Office Action. The ground of rejection set forth in section 14, though, is respectfully traversed.

Section 14 of the Office Action asserts that there is insufficient antecedent basis for "the generating step" in claims 15, 18, and 20. This assertion appears to be an oversight with respect to claim 18, which does not recite a generating step. As for claims 15 and 20, the elements of a method claim are steps. These claims recite "generating a watermark

image," and it is respectfully submitted that this provides a suitable antecedent basis for "the generating step including ..." that follows.

The Rejections on the Prior Art:

Section 17 of the Office Action rejects all of the independent claims (along with several dependent claims) for obviousness based on a published US application by Suzaki in view of a US patent to Cox et al (which will hereafter be called simply "Cox" for short). The present Amendment revises the independent claims in response to this rejection. Claim 2, for example, now recites a "plurality of PN code sequences," which are used "so as to diffuse units of watermark information by assigning one of the PN code sequence to a row or column and assigning another of the PN code sequences to another row or column." Independent claims 5, 15 and 20 have been revised to include similar limitations. The revisions to these claims are supported by the description of the third embodiment in the application.

It is noted that the present Amendment also adds new claims 25-27 to further protect the invention.

The Office Action takes the position that Suzaki discloses most of what is recited in claim 2, but acknowledges that the reference does not teach the use of PN codes. The Office Action then asserts that the Cox reference teaches the use of PN codes to watermark a document, and concludes that this would have made it obvious to modify Suzaki's arrangement in order to increase security in data integrity of the watermark. As was noted above, though, claim 2 now recites a use of a plurality of PN code sequences, with one of the PN code sequences being assigned to a row or column and another of the PN code sequences being assigned to another row or column. Since this is not disclosed by Cox, it is respectfully submitted that the invention now defined by claim 2 would not have been obvious.

Independent claims 5, 15, and 20 now also recite the use of a plurality of PN code sequences as in claim 2, so the rejection for obviousness should be withdrawn with respect to these claims, too.

Independent claim 8 recites that a watermark information detector "calculates correlation values using different PN code sequences, detects a correlation peak value of each PN code sequence, and estimates row addresses and column addresses according to the correlation peak values." Suzaki and Cox do not suggest this.

Independent claim 18 also recites the use of a plurality of PN code sequences. It also recites a step (b) of extracting the watermark image, a step (c) of "calculating correlations between the watermark image and the plurality of PN code sequences," and a step (d) of "estimating an area occupied by the watermark information according to steps (b) and (c)." It is respectfully submitted that Suzaki and Cox together would not have suggested using sequences of PN codes in this way.

New independent claim 25 also recites a plurality of PN code sequences, which are used "to represent the watermark information with respect to row units or column units of watermark information."

Finally, new independent claim 27 recites that a watermark information detector "calculates correlation values using different PN code sequences, detects a correlation peak value of each PN code sequence, and estimates row addresses or column addresses according to the correlation peaks." It is respectfully submitted that Cox's use of PN codes would not have motivated an ordinarily skilled person to modify Suzaki so as to achieve the invention defined by claim 27.

The remaining claims dependent from the independent claims discussed above and recite additional limitations to further define the invention. They are therefore automatically patentable along with their independent claims and need not be further discussed.

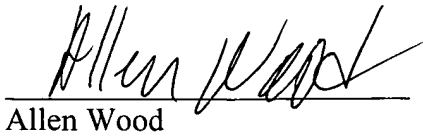
Conclusion:

For the foregoing reasons, it is respectfully submitted that this application is now in condition for allowance.

It is noted that this application has now been amended to include two further independent claims in excess of three. Accordingly, an excess claim fee of $440 is being

submitted concurrently. Should this remittance be accidentally missing or insufficient, though, any fees that may be needed can be charged to our Deposit Account 18-0002.

Respectfully submitted,



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